# STANFORD ICHTHYOLOGICAL BULLETIN

**Published by the**

**NATURAL HISTORY MUSEUM OF STANFORD UNIVERSITY**

All communications concerning purchase or exchange of this publication should be addressed to the Director, Natural History Museum, Stanford University, Stanford, California. Remittances should be made payable to Stanford University.

Volume 7 August 30, 1956 Number 2


CONTENTS


Page

MYERS, GEORGE S., and BÖHLKE, JAMES
The Xenurobryconini, a Group of Minute South American Characid Fishes with Teeth Outside the Mouth . . . . . 6

MYERS, GEORGE S.
*Copella*, a New Genus of Pyrrhulinin Characid Fishes From the Amazon . . . . . 12

MYERS, GEORGE S.
*Esomus rehi*, an Indo-Malayan Cyprinid Fish . . . . . 13

MYERS, GEORGE S.
A Note on an Abyssinian Catfish, *Clarias depressus* Myers . . . . . 14

WEITZMAN, STANLEY H.
A Description, Supplementary Notes and a Figure of *Corydoras cochui* Myers and Weitzman, a Brazilian Catfish . . . . . 14

COHEN, DANIEL M.
The Synonymy and Distribution of *Leuroglossus stilbius* Gilbert, a North Pacific Bathypelagic Fish . . . . . 19

WILIMOVSKY, NORMAN J.
A New Name, *Lumpenus sagitta*, to Replace *Lumpenus gracilis* (Ayres), for a Northern Blennioid Fish (Family Stichaeidae) . . . . . 23



SEP 1956
LIBRARY
POFI
FISH & WILDLIFE

# THE XENUROBRYCONINI, A GROUP OF MINUTE SOUTH AMERICAN CHARACID FISHES WITH TEETH OUTSIDE THE MOUTH[1]

By George S. Myers and James Böhlke[2]

Among the small characids obtained by Louis Agassiz during the Thayer Expedition in 1865-66 we have found a single male of a tiny species which, while we were studying it, was described by Ladiges (1950) as *Microbrycon cochui*. It has since become apparent that this same fish was earlier described from the Rio Madeira as *Tyttocharax madeirae* Fowler (1913). This little fish has teeth arranged irregularly *outside the mouth* on the snout and lower jaw, and thus resembles A. de Miranda-Ribeiro's *Microcaelurus* (1939), the two poorly preserved types of which were cursorily examined by the senior author in Rio de Janeiro in 1943. While we do not have adequate notes on Miranda-Ribeiro's material, there is no doubt that the two genera are closely related.

The strange, irregular arrangement of the teeth of these fishes precludes placement anywhere in Eigenmann's system, although the male caudal gland indicates close relationship with the genera grouped by Eigenmann (see Eigenmann and Myers 1929, p. 467) in the Glandulocaudinae (equals the tribe Glandulocaudini of Myers, in Myers and P. de Miranda-Ribeiro 1945, pp. 4, 6). Fowler (1951, pp. 415, 418) also aligned them with the glandulocaudines. (For the moment, we consider Eigenmann's subfamilies Characinae, Tetragonopterinae, Glandulocaudinae, Stichonodontinae, Stethaprioninae, Rhoadsiinae, and Cheirodontinae to form one subfamily, the Characinae.) Within the Glandulocaudini we find that *Xenurobrycon* Myers and P. de Miranda-Ribeiro (1945) is also related to *Microcaelurus* and to *Tyttocharax* and we therefore remove *Xenurobrycon* from the Glandulocaudini and place it with its two close relatives in a new tribe, the Xenurobryconini.

## Tribe XENUROBRYCONINI, new

Tiny characids closely allied to the Glandulocaudini, differing in the uniformly conical teeth and in the structure of the glandular region of the male caudal fin. The caudal gland in the Xenurobryconini is at the middle of the fin and is covered by a single enormous scale, which is ornamented on its surface by a remarkable sculptured pattern. Other characteristics shared by the species of the Xenurobryconini are: some of the jaw teeth project forward or are situated distinctly outside the mouth; the male pelvic fins are slightly or much enlarged (and in *Xenurobrycon* their bases are elevated); the caudal fin of males is split into two halves at the gland; the great suborbital covers the cheek to its boundaries or nearly so; the species are all of small size and are strongly sexually dimorphic; the lateral line is incomplete or absent; and the dorsal takes its origin behind the mid-point of the standard length.

---

[1] This paper forms No. 13 of the junior author's "Studies of fishes of the family Characidae."

[2] Natural History Museum of Stanford University, and Academy of Natural Science of Philadelphia, respectively.

## Key to the Species of the Xenurobryconini

1a. Pelvic fins of the males normal in position, situated on the ventral surface of the body and the bases not widely separated; premaxillary and mandibular teeth in a band without definite arrangement in rows; maxillary extending to below front of eye or beyond.

2a. Mouth large, the maxillary reaching (when mouth is closed) to beneath the middle of the eye; rather heavy-bodied fishes of small size, but larger (30 to 35 mm. standard length) than the other genera . . . . . *Microcaelurus odontocheilus.*

2b. Mouth small, the maxillary reaching not further than under the front part of the eye; very tiny fishes reaching only about 15 mm. s. l., rather slender and delicate in form . . . . . *Tyttocharax madeirae.*

1b. Bases of pelvic fins of males separated widely and set rather high upon sides; premaxillary and mandibular teeth of both sexes in a single row; maxillary very short, not reaching front border of eye; minute fishes of 17 or 18 mm. s. l. . . . . *Xenurobrycon macropus.*

## Genus *MICROCAELURUS* A. de Miranda-Ribeiro

*Microcaelurus* Alipio de Miranda-Ribeiro 1939, p. 362 (type species: *Microcaelurus odontocheilus* Miranda-Ribeiro 1939, by monotypy).

### *Microcaelurus odontocheilus* Miranda-Ribeiro

*Microcaelurus odontocheilus* A. de Miranda-Ribeiro 1939, p. 362 (type locality: not given, but see discussion below).—Fowler 1951, p. 415 (in check-list of Brazilian fresh-water fishes).

SYNTYPES.—Two examples: adult male and female, in the neighborhood of 30 or 35 mm. in standard length, in the Museu Nacional, Rio de Janeiro. These specimens were very briefly examined by the senior author in Rio de Janeiro in 1943, but the notes and sketches made at that time have been lost. These fishes are said by Carvalho (see below) to have been collected at Parintins, Amazonas. For a translation of the original description, see Appendix.

In spite of the fact that localities were given for all the other species described in this paper, no locality is given by Miranda-Ribeiro for *M. odontocheilus* save for the statement in the introduction that the collection reported upon was sent by Dr. Carlos Estevan de Oliveira and was from "Amazonas." At the time Prof. Miranda-Ribeiro received this collection, our friend Mr. Antenor Leitão de Carvalho (now Naturalista of the Museu Nacional in Rio) was assistant to Prof. Miranda-Ribeiro, and he brought these and other collections personally from Belém do Pará to Rio de Janeiro. Mr. Carvalho tells us that he remembers these fishes very well, recalls the circumstances under which he received and delivered them, and was present when Prof. Miranda-Ribeiro worked on them.

According to Mr. Carvalho, the collection of which *Microcaelurus* formed a part consisted of live aquarium fishes sent downriver to the Museu Goeldi, of which Dr. Estevan de Oliveira was then director. At that time, the entire support of the Museu Goeldi was derived from the export tax of the State of Pará on aquarium fishes. Air transport of aquarium fishes was then uncommon, and the fishes came downriver by boat and were assembled in the banks of concrete tanks in the compound of the Museu Goeldi for fiscalization before being sent by ship to Hamburg or New York. Mr. Carvalho says

that the two syntypes of *M. odontocheilus* were part of a collection of aquarium fishes obtained near Parintins, State of Amazonas. Being familiar with his acute observations and good memory, we see no reason to doubt this. Undoubtedly Prof. Miranda-Ribeiro was given the locality data but failed to record them through inadvertence.

## Genus *TYTTOCHARAX* Fowler

*Tyttocharax* Fowler 1913, p. 563 (type species: *Tyttocharax madeirae* Fowler 1913, by original designation).

DIAGNOSIS.—Minute and remarkably dimorphic characids with strictly conical teeth, attaining a standard length of approximately 15 mm. Premaxillary teeth in large patches about five or six teeth in width, not in definite rows, many projecting outward and lying entirely outside the gape. Mandibular teeth in similar patches anteriorly, but tapering to a single series laterally. Maxillary dentition irregularly biserial anteriorly, becoming nearly or quite uniserial farther back. Teeth along two-thirds to almost the entire edge of maxillary. Females with fewer teeth, fewer rows of teeth, and fewer that project outside the mouth.

Great suborbital large, covering cheek. Parietal fontanel narrow with parallel lateral margins. Frontal fontanel a small triangular wedge, separating posterior ends of frontals. Fontanels widest at the point of junction between frontal and parietal fontanels. Scales normal, cycloid, no prolonged humeral scale. Predorsal and preventral scalation complete. No scales on caudal or anal fins, excepting the series along the base of the latter. Lateral line incomplete, developed only on several of the anterior scales. Accessory caudal rays moderately developed, pointed, the free tips (especially of the dorsal ones) protruding.

Origin of dorsal fin posterior, behind mid-point of standard length. Ventrals normal in position, ventral, those of males somewhat larger than those of females. Ventral outline of body at base of anal fin somewhat swollen along anterior two-thirds of fin in the males. The ventral outline turns rather abruptly upward posterior to this swollen area, crowding the posterior fin rays and giving a very characteristic outline to the fin. Four or five of the posterior male anal rays bear a series of comparatively strong, recurved hooks, the most distal hook on each ray being strongest. This is quite different from the condition of the males of *Xenurobrycon*, which bear a series of recurved hooks on the last unbranched and first eight branched rays (SU No. 40764). Male caudal fin split to its base, the upper lobe larger, bearing an additional smaller "lobe" ventrally, and overlapping the lower. Upper lobe of female caudal fin also larger but without the angulated ventral extension and without the split to its base. These characters are adequately figured by Ladiges (1950, p. 307, fig. 2), except that his left-hand figure, that of the male fin, is inverted. Base of male caudal fin covered medially by a single huge sculptured scale of the same size and sculpturing as that possessed by the males of *Xenurobrycon* Myers and P. de Miranda-Ribeiro (1945), described by Myers on p. 4 of that paper.

The three genera included in the Xenurobryconini are doubtless closely related, but are readily distinguishable because of the extremes in sexual dimorphism these tiny fishes have attained. *Tyttocharax* differs from *Microcaelurus* primarily in its minute size, and in having a smaller mouth, a more slender and elongate form, and a less extensive hypertrophy of the premaxillaries into a large roll (which in *Microcaelurus* is much as in the gymnotid *Oedemognathus*). It differs from *Xenurobrycon* in its many-rowed jaw teeth and in the normal position of the male ventral fins. *Tyttocharax* and *Microcaelurus* are evidently very closely related.

*Tyttocharax madeirae* Fowler

*Tyttocharax madeirae* Fowler 1913, p. 564, fig. 20 (type locality: tributary of Rio Madeira near Porto Velho, Brazil; also from Madeira, 200 miles east of Long. 62° 20' W., and Igarapé de Candelaria, Rio Madeira, Brazil).—Fowler 1951, p. 418, fig. 463 (in check-list of Brazilian fresh-water fishes).

*Microbrycon cochui* Ladiges 1950, p. 305, 3 figs. (type locality: region of Ramon Castillo, just across the river from Tabatinga, near the Brazil-Peru border).

MATERIAL EXAMINED.—ANSP 39305; 1 specimen, collected by Edgar A. Smith from a tributary of the Madeira near Porto Velho, Brazil; January or February, 1913. Holotype of *T. madeirae*. For more information on this and the following Madeira localities, see Böhlke 1955.

ANSP 39306; 1 specimen, data as for the preceding. Paratype of *T. madeirae*.

ANSP 39301-39302; 2 specimens, collector as for preceding, Rio Madeira, 200 miles east of Long. 62° 20' West; September, 1912. Paratypes of *T. madeirae*.

ANSP 39299-39300; 39303-39304; 2 specimens in bottle plus a note that

TABLE I

Measurements, Counts and Proportions of Two Female Specimens of *Tyttocharax madeirae*: the Holotype and a Specimen from Ramon Castillo

| | ANSP 39305 | | SU 17490 | |
|---|---|---|---|---|
| Standard length | 14.5 | (1.0)[1] | 15.0 | (1.0)[1] |
| Greatest depth | 4.6 | (3.2) | 4.7 | (3.2) |
| Snout to dorsal | 9.1 | (1.6) | 9.7 | (1.5) |
| Snout to pectoral | 4.0 | (3.6) | 4.7 | (3.2) |
| Snout to ventral | 6.5 | (2.2) | 7.3 | (2.1) |
| Snout to anal | 8.7 | (1.7) | 9.1 | (1.6) |
| Least peduncle depth | 1.9 | (7.6) | 2.0 | (7.5) |
| Length of pectoral | 3.2 | (4.5) | – | – |
| Length of ventral | 2.2 | (6.6) | 2.2 | (6.8) |
| Length of head | 4.2 | (3.4) | 4.7 | (3.2) |
| Diameter of eye | 1.8 | (2.3) | 2.0 | (2.3) |
| Length of snout | 1.1 | (3.8) | 1.2 | (3.9) |
| Bony interorbital | 1.5 | (2.8) | 1.5 | (3.1) |
| Length of upper jaw | 1.7 | (2.5) | 1.7 | (2.8) |
| Dorsal rays | ii,7 | | ii,7 | |
| Anal rays | iii,16[2] | | iii,17[3] | |
| Pectoral rays | i,7/i,7 | | i,8/i,8 | |
| Ventral rays | i,6/i,6 | | i,6/i,6 | |
| Principal caudal rays | i,17,i | | i,17,i | |
| Lateral scales | 35 | | 35 | |
| Perforated scales | – | | 6 | |
| Transverse scales | 8 | | 8 | |

[1]The figures in parentheses are proportions, those down through "length of head" in standard length, the remainder in head length.

[2]The last ray not composite.

[3]The last ray not composite; or, the count should be iii,18 with the last ray very widely split, even its base.

39304 has been skeletonized (one specimen was sent to Myers on exchange and is now deposited in the U. S. National Museum), collected by Smith from the Igarapé de Candelaria, Rio Madeira, Brazil; September, 1912. Paratypes of *T. madeirae*.

SU 17490; 2 aquarium specimens (male and female), not types, but part of the original lot of fishes from which Ladiges obtained his types of *Microbrycon cochui*; from the region of Ramon Castillo, just across the Amazonas from Tabatinga, near the Brazil-Peru border; 1949. Stock collected by F. Cochu and specimens received from Dr. Ladiges.

MCZ 15987; 1 specimen collected by Bourget on the Thayer Expedition at Tabatinga, Brazil; September - October, 1865.

DISCUSSION.—Until fresh material is obtained, the descriptions by Fowler (1913, of *madeirae*) and Ladiges (1950, of *cochui*) must be consulted for information about the species.

As evidence of the conspecificity of the two nominal forms, counts, measurements and proportions of the holotype (female) of *madeirae* and a female *cochui* from Ramon Castillo are presented in Table I. Besides proportions and counts, the two are alike in dentition, coloration and general appearance.

## Genus *XENUROBRYCON* Myers and P. de Miranda-Ribeiro

*Xenurobrycon* Myers and Paulo de Miranda-Ribeiro 1945, p. 2 (type species *Xenurobrycon macropus* Myers and Miranda-Ribeiro 1945, by original designation).

## *Xenurobrycon macropus* Myers and P. de Miranda-Ribeiro

*Xenurobrycon macropus* Myers and Paulo de Miranda-Ribeiro 1945, p. 5, fig. 1 (type locality: Rio Bodoquena, Matto Grosso, Rio Paraguay basin).—Fowler 1951, p. 419, fig. 464 (in check-list of Brazilian fresh-water fishes).

MATERIAL EXAMINED.—SU 40764; 2 specimens, male and female, collected by Paulo de Miranda-Ribeiro from Rio Bodoquena, Paraguay Basin, Matto Grasso; December, 1941. Paratypes of *X. macropus*. Types in the Museu Nacional.

DISCUSSION.—No new material of this species has been recorded, so the original description of the types stands as the total of our knowledge of this fish.

## ACKNOWLEDGEMENTS

We wish to thank Dr. Werner Ladiges of Aquarium Hamburg for the gift of the two specimens of *Microbrycon cochui* from Ramon Castillo, and Dr. William C. Schroeder of the Museum of Comparative Zoology for permitting study of the Thayer Expedition material.

## LITERATURE CITED

BÖHLKE, James

1955 Studies on fishes of the Family Characidae.—no. 9. Notes on the distribution, variation and type locality of *Gnathocharax steindachneri* Fowler. Notulae Naturae, Philadelphia, no. 277, 14 pp., 5 figs.

EIGENMANN, Carl H., and MYERS, George S.
1929 The American Characidae. Mem. Mus. Comp. Zool. Harvard, vol. 43, part 5, pp. 429-574, 11 pls.
FOWLER, Henry W.
1913 Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, vol. 65, pp. 517-579, 25 figs.
1951 Os peixes de água doce do Brasil. Arquivos Zool. est. São Paulo, vol. 6, pp. 405-628, figs. 448-589.
LADIGES, Werner
1950 *Microbrycon Cochui* spec. nov., eine neue Art der südamerikanischen Glandulocaudinae. Zool. Anz., Leipzig, Bd. 145, Heft 11/12, pp. 305-309, 3 figs.
MIRANDA-RIBEIRO, Alipio de
1939 Alguns novos dados ictiologicos da nossa fauna. Bol. Biologico, São Paulo, n. s., vol. 4, no. 3, pp. 358-363.
MYERS, George S., and MIRANDA-RIBEIRO, Paulo de
1945 A remarkable new genus of sexually dimorphic characid fishes from Rio Paraguay basin in Matto Grosso. Bol. Mus. Nac., Rio de Janeiro, n. s., zool., no. 32, 8 pp., 1 fig.

## APPENDIX

Because the original description of *Microcaelurus* A. de Miranda-Ribiero 1939 (p. 362) occurs in a journal not available in most large libraries, and because its translation presents difficulties to those not familiar with the Portuguese language, we present below a complete translation made by the senior author. Material enclosed in brackets is by the translator. Incidentally, the publication date of the paper is printed as Oct. 30, 1939. This seems correct, for the reprint was received at Stanford on Dec. 18, 1939.

### *Microcaelurus*, gen. nov.

General form of *Hemibrycon*, with the dorsal originating over the anal. Lateral line absent. A gland on the base of the caudal, above a large median scale. Ventrals of the male differentiated. Dentition in a thick band; teeth conical, of different sizes, on the premaxillaries, and passing outside the lips, in a border to the latter, on the maxillaries. Females with the fins smaller. Adipose present.

### *Microcaelurus odontocheilus* sp. nov.

Dorsal 8. Anal 19. Lateral line 32. Transverse scales 10.

Male: Eye 2/1 [1/2?] in the snout, 2 and 2/3 in the head. Fontanelle present. Mucous pores absent. Head 3½, depth 2 and 3/4. Snout very short, rounded; eyes large, the maxillaries reaching the vertical of the middle of the orbit. Preopercle narrow with prominent angle. Opercle almost round. Gill opening wide. A median line of [predorsal] scales. Pectorals lanceolate, reaching the base of the ventrals; the latter large, with the rays wide and dilated, but with borders [of the rays] parallel and [the rays] little ramified, so as to constitute alleys [parallel alleys, as in a bowling alley]. Dorsal originating slightly before anal, trapezoid [in form].

Adipose present, touched by the last dorsal ray. Anal [border] sinuous, with the last rays longer than the middle, touching the second caudal ray.

The latter fin [caudal] with the rays very broad, with some basal fulcra both above and below, the rays of the lower lobe in intimate contact so as to form a lamina [= thin plate] of the whole lobe.

Scales large, *ciloides*, transparent. [The meaning of *ciloides* is not apparent. Does it mean "ciliate" (with cilia or roughnesses on the edge) or is it a misprint for "cycloid"?]. No lateral line. Scales at base of caudal modified, having a large median basal [scale] with the inferior margin furrowed [= sulcate], a gland at the beginning of its upper anterior angle, and a series of smaller scales on its base, [the latter?] forming a narrow transverse bar. Lines of black dots accompany the profile of the scales. Caudal fin with a black border. The other [fins] less pigmented. Top of the head and snout dark. A fine, straight, black line from the opercle to the base of the caudal. Iris black. The female differs from the male in having the ventrals pointed and normal, the anal [fin border] rounded and not emarginate, the pectorals as well as the ventrals and anal not reaching their neighbors [i.e., the fin next behind] and by the glandular scale, which is less evident. The black line which is observed along the flanks of the male is slightly curved in the female. The genital region is naked, prominent, and in the form of an oblong hill and with its aperture linear, longitudinal, and median. This fact leads me to believe that the ventrals of the male have functions auxiliary to reproduction.

---

## *COPELLA*, A NEW GENUS OF PYRRHULININ CHARACID FISHES FROM THE AMAZON

By George S. Myers

The accepted classification of the South American characid genera *Pyrrhulina* and *Copeina* is still that proposed by Regan (1912). Further studies of these fishes indicate that the form of the maxillary (see Myers, 1927, p. 111) is perhaps more important than the number of premaxillary tooth rows.

In certain forms there is sexual dimorphism in the shape of the maxillary. In the female the lower border of the maxillary is smoothly convex, whilst that of the male is triply curved—convex near the anterior and posterior ends and concave at the middle. The form of the male maxillary is shown, although not too clearly, in plate 2, fig. 6a, of Steindachner's 1875 paper. Sexual dimorphism in the form of the maxillary and the peculiar shape of this bone in the male is correlated with a very slender body, and with an excessively elongated upper caudal lobe in well developed, mature males.

Only three described species belong to this peculiar group, for which I propose the new generic name *Copella* (named in honor of E. D. Cope, 1840-1897, American zoologist and paleontologist). The type species of *Copella* is *Copeina compta* Myers (1927, p. 110). *Copeina callolepis* Regan (1912, p. 393) from the lower Amazon also belongs to this genus, as does *Pyrrhulina nattereri* Steindachner (1875, p. 13 (p. 8 of reprint), pl. 2, figs. 5 and 6a). [It should be noted that Steindachner's figures 5a and 6a are erroneously labelled and should be reversed.] Indeed, I am not sure that *nattereri* and *callolepis* are different species.

*Copella compta* is from the Upper Rio Negro at Cachoeira São Gabriel. *Copella nattereri* was described from the mouth of the Rio Negro (Manaus) and Obidos, and *Copella callolepis* from the "Amazon". *Copella callolepis* and *C. nattereri* are alike in the possession of many small, bright spots along the sides; *C. compta* lacks these spots.

No other characids of the *Pyrrhulina-Copeina* group exhibit a maxillary like those of the males of *Copella*. The generic names *Copeina* Fowler (1906, p. 294; type by original designation *Pyrrhulina argyrops* Cope, 1878, p. 694) and *Holotaxis* Cope (1871, p. 563; type by original designation *H. melanostomus* Cope 1871) do not seem to be involved. *Copeina argyrops*, which was figured by Fowler (1906, p. 295, fig. 2), is very close to or identical with *Pyrrhulina guttata* Steindachner (1875, p. 15, pl. 2, figs. 5a and 6). It is only distantly related to *Copella*. The type specimens of *Holotaxis melanostomus* from Pebas were not found or listed by Fowler (1906) during his survey of the Cope collections of characids in the Philadelphia Academy, nor has the species been recognized in the large Scherer collections from Pebas at Stanford. Regan (1912, p. 390) doubtfully placed *melanostomus* with *nattereri* but Cope's description of the color leads me to think the fish had nothing to do with *nattereri* or with any known species of *Copella*. The colors as given remind one of those of *Copeina arnoldi*. The generic name *Holotaxis* and the specific name *H. melanostomus* had best be left as unidentifiable, unless the types are eventually found.

## LITERATURE CITED

COPE, Edward Drinker
1871 Contribution to the ichthyology of the Marañon. Proc. Amer. Philos. Soc., vol. 11 (for 1870), pp. 559-570.
1878 Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Amer. Philos. Soc., vol. 17, pp. 673-701.

FOWLER, Henry Weed
1906 Further knowledge of some heterognathous fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 1906, pp. 293-351.

MYERS, George Sprague
1927 Descriptions of new South American fresh-water fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool. Harvard, vol. 68, pp. 107-135.

REGAN, Charles Tate
1912 A revision of the South-American characid fishes of the genera Chalceus, Pyrrhulina, Copeina, and Pogonocharax. Ann. & Mag. Nat. Hist., ser. 8, vol. 10, pp. 387-395.

STEINDACHNER, Franz
1875 Beiträge zur Kenntniss der Characinen des Amazonstromes. Sitzb. k. Akad. Wíss. Wien, math-naturw. Cl., Band 72, pp. 6-24 (pp. 1-19 of reprint), pls. 1-2.

---

*ESOMUS REHI*, AN INDO-MALAYAN CYPRINID FISH.—In 1907 (Ann. & Mag. Nat. Hist., ser. 7, vol. 19, p. 262) Regan described and figured a presumed new genus and species of South American characid fishes, *Pogonocharax rehi*, based on an aquarium specimen sent to him from Hamburg.[1] Soon thereafter, Mr. John T. Nichols of The American Museum of Natural History recognized Regan's figure as that of an Asiatic cyprinid of the genus *Nuria* (now called *Esomus*). Mr. Nichols was urged by Dr. T. N. Gill to publish this information but to my knowledge he never did so, although he did call the error to Mr. Regan's attention (*in litt.*). However, Dr. D. S. Jordan received the information and recorded the genus *Pogonocharax* correctly under

[1]Another reference to *Pogonocharax rehi* is made by Regan (1912; see literature cited in my preceding paper, above).

the family Cyprinidae in his Classification of Fishes (1923, Stanford, p. 144). Of course, the type locality of *P. rehi* ("Argentina") was erroneous, and to this bad error on the part of Regan's correspondent is due the latter's failure to recognize a common Indian genus. Mistaken locality data are common in dealing with specimens from aquarists. There is no doubt that *P. rehi* is an *Esomus*.

This placement of a name described in the Characidae in the Cyprinidae seems to have escaped the attention of workers on Indo-Malayan fishes. (*E. g.*, Ahl, in his revision of *Esomus*, 1923, Mitt. Zool. Mus. Berlin, Band 11, Heft 1, pp. 22-43.)

Regan's type had lost the scales and the caudal fin was broken, but he could perceive that the specimen had no lateral line. Given these facts, and with knowledge that the commonest species of *Esomus* in the tanks of aquarists for the past 50 years has been *E. malayensis* Ahl from the Malayan region, it would seem probable that *Esomus rehi* (Regan) is identical with that form. However, only a re-examination of the type in London, and careful comparison with Malayan examples, will answer the question.—George S. Myers.

---

A NOTE ON AN ABYSSINIAN CATFISH, *CLARIAS DEPRESSUS* MYERS.—When the writer was very young, he described *Clarias depressus* based on two syntypes in The American Museum of Natural History, New York (1925, Copeia, no. 139, pp. 12-13. In this description, the gill-raker count given is not correct. A later count made on one of the two syntypes showed 54 rakers on the entire first arch.

The locality for *C. depressus* was given as "the water hole of a hippopotamus, on the Abano River, about 6 km. west of Addagalla, Abyssinia". My notes show that the "6 km." was not clear on the label and may have originally been 60 km.—George S. Myers.

---

## A DESCRIPTION, SUPPLEMENTARY NOTES AND A FIGURE OF *CORYDORAS COCHUI* MYERS AND WEITZMAN, A BRAZILIAN CATFISH

By Stanley H. Weitzman

The original description (Myers and Weitzman, 1954) of the callichthyid catfish, *Corydoras cochui*, was published in an aquarium magazine and figured by a photograph of the holotype in life. This figure only presented a general impression of this species. Also, since the original description, a little more information has accumulated concerning the relationships of this catfish and four more specimens from the type locality have come to hand (SU 48846). One of these, 22.5 mm. in standard length, is in excellent condition and figure 1 is taken from this specimen. For these reasons, a figure, an expanded description and supplementary notes are published here.

*Corydoras cochui* Myers and Weitzman. HOLOTYPE: SU 47656; a specimen 23.5 mm. in standard length; collected during 1953 or 1954 at Santa Maria Nova, Rio Araguaya, State of Goyaz, Brazil. PARATYPES: SU 47657; two specimens, 23.4 and 25.5 mm. in standard length; same locality and date. ADDITIONAL SPECIMENS: SU 48846; four, 17.5-22.5 mm. in standard length; same locality and date. For MEASUREMENTS see table 1.

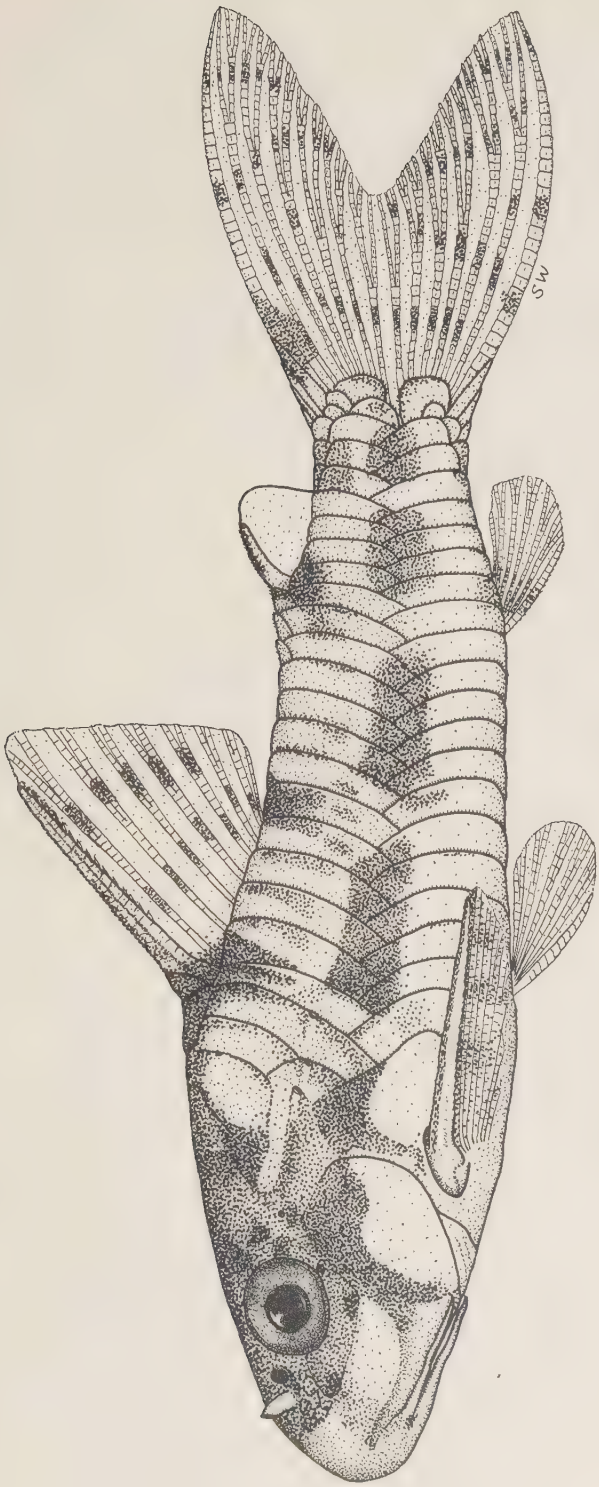

Fig. 1. *Corydoras cochui* Myers & Weitzman, SU 48846, 22.5 mm. in standard length.

DESCRIPTION (Holotype first; data on paratypes and additional specimens in parentheses; all proportions in standard length unless otherwise indicated).—Body elongate, greatest deptn 3.3 (3.1-3.6). Least depth of caudal peduncle 6.7 (6.5-7.3). Dorsal fin origin nearer to snout tip than to caudal base. Distance between snout tip and dorsal origin 2.1 (2.1-2.3). Distance between snout tip and anus 1.9 (1.8-2.0). Origin of anal fin to snout tip 1.3 (1.2-1.3). Origin of adipose fin spine to snout tip 1.2 (1.2-1.3). Lateral scutes 23/20 in all specimens. Abdomen naked. Azygous middorsal scutes 3 before adipose fin and 1 before dorsal. Pectoral base incompletely surrounded by coracoid. Naked area between coracoids 1.0 (0.8-1.0) in orbit.

Head length 3.1 (3.2-3.5); its greatest width 1.2 (1.2-1.3) in its length. Least width of bony interorbital 3.0 (2.5-3.0) in nead length. Snout rather acute from dorsal view; its length 2.3 (2.1-2.2) in head length. Dorsal profile of snout continuously convex. Rictal barbels reaching a point directly below hind margin of pupil. Greatest diameter of bony orbit 1.3 (1.3-1.4) in snout, 3.0 (2.6-3.0) in head length. Greatest width of suborbital 2.0 (1.9-2.5) in orbit.

Dorsal fin I, 7, the last ray split to its base. Appressed spine and first soft ray not reaching adipose spine, which is 1.3 (1.2-1.4) in orbit. Anal fin i, 6, last ray small and weak; or anal fin may be interpreted as i, 5, last ray split to its base. Pectoral fin I, 7 (or I, 8 in some specimens), its spine 3.0 (3.1-3.2) in standard length. Pelvic fins with 6 rays (*i.e.*, i, 5). Caudal witn principal rays 7/7. Fin-ray count same in all specimens (except pectoral fins).

COLOR OF HOLOTYPE IN ALCOHOL.—Dull light brownish. Four dark, elongate midside blotches; the first beginning behind cleithrum and ending below sixth dorsal ray, second beginning at about tenth upper scute and ending below origin of adipose, third beginning one scute behind second blotch and ending five scute rows posteriorly. A central dark area at caudal base forms the fourth blotch. A more or less interrupted dark streak below dorsal fin, extending backward below adipose and ending in a dark spot on

Table 1. Measurements in millimeters of specimens of *Corydoras cochui*

| Measurement | Holo-type | Paratypes | | Additional specimens | | | |
|---|---|---|---|---|---|---|---|
| Standard length | 23.5 | 23.4 | 25.5 | 17.5 | 21.0 | 21.8 | 22.5 |
| Head length | 7.5 | 7.4 | 7.5 | 5.5 | 6.0 | 6.2 | 6.9 |
| Snout length | 3.3 | 3.3 | 3.5 | 2.5 | 2.9 | 2.9 | 3.2 |
| Least width of bony interorbital | 2.5 | 2.5 | 2.5 | 1.8 | 2.2 | 2.0 | 2.4 |
| Greatest diameter of bony orbit | 2.5 | 2.5 | 2.5 | 2.0 | 2.3 | 2.3 | 2.5 |
| Greatest widtn of suborbital | 1.1 | 1.2 | 1.3 | 0.8 | 1.0 | 1.1 | 1.1 |
| Length of fontanel | 2.5 | 2.5 | 2.0 | 1.9 | 2.0 | 2.2 | 2.0 |
| Length of predorsal scale | 1.4 | 1.1 | 1.2 | 0.6 | 0.9 | 0.9 | 1.2 |
| Greatest width of head | 5.9 | 6.0 | 6.0 | 4.3 | 5.0 | 4.8 | 5.7 |
| Snout tip to dorsal fin origin | 11.5 | 11.5 | 12.0 | 8.5 | 9.5 | 9.5 | 10.6 |
| Snout tip to adipose fin origin | 19.4 | 19.4 | 21.0 | 14.6 | 17.5 | 17.0 | 19.0 |
| Snout tip to anal fin origin | 19.0 | 19.0 | 20.0 | 14.5 | 17.0 | 16.8 | 18.5 |
| Snout tip to anterior edge of anus | 12.0 | 12.0 | 12.5 | 9.5 | 10.4 | 10.5 | 11.8 |
| Greatest body depth | 7.1 | 7.0 | 7.2 | 5.4 | 6.0 | 6.0 | 7.2 |
| Least depth of caudal peduncle | 3.5 | 3.5 | 3.5 | 2.5 | 3.0 | 3.0 | 3.5 |
| Distance between coracoids | 2.5 | 2.5 | 2.6 | 2.6 | 2.5 | 2.5 | 3.4 |
| Length dorsal spine | 7.3 | 7.0 | 7.6 | 5.5 | 6.4 | 6.3 | 6.0 |
| Length pectoral spine | 7.5 | 7.5 | 8.0 | 5.5 | 6.5 | - - | 7.0 |
| Length adipose spine | 1.9 | 2.1 | 2.0 | 1.6 | 2.0 | 2.0 | 1.8 |

upper edge of caudal peduncle. Dorsal spine with a thin, lengthwise, dark streak along each side. Dorsal rays with a scattering of small melanophores; these aggregated into black spots in two very irregular rows (in the specimen figured these form more regular rows). Caudal fin with about 5 narrow, somewnat irregular, dark crossbands (in other specimens the number and placement of these crossbands is varied, but they are always narrow). Base of anal with a dark spot which extends on body. Pelvics clear. Pectoral spines with a narrow dark line as on dorsal spine. A few scattered dark spots on pectoral rays. Dark spot on upper part of cleithrum. Top of head dark. Upper and anterior portion of opercle dark. A dark line from eye to base of barbels.

DISCUSSION.—The following is quoted (except for statements in brackets) from the diagnosis and discussion in the original description. "Closely related to *C. paleatus* [*Corydoras paleatus* Jenyns 1842], differing principally in the narrower interorbital space (3.0 in head length versus 2.0 to 2.6 in *paleatus)* [additional specimens of *cochui* now extend the range of interorbital space in the head length to 2.5 to 3.0], more slender form

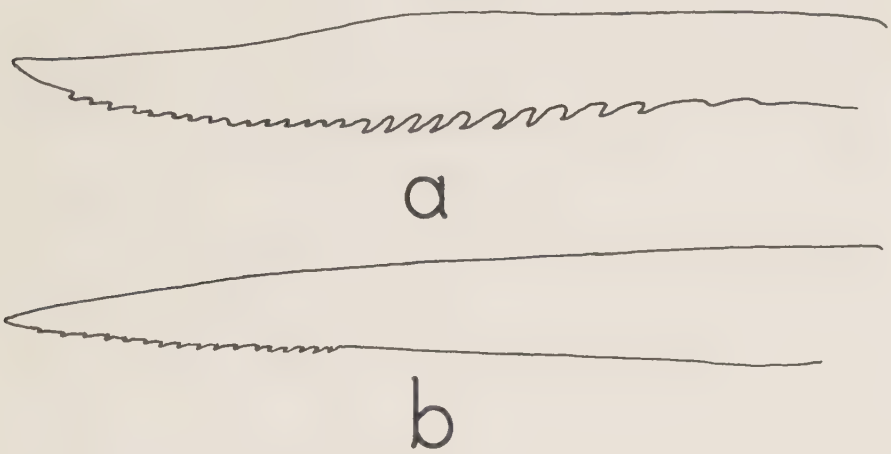


Fig. 2. Dorsal view of left pectoral spine of: a. *Corydoras cochui*, holotype; b. *Corydoras paleatus*, SU 31580, 70 mm. standard length.

(greatest body depth for types 3.3 in standard length) [further specimens have expanded the figure to a range of 3.1 to 3.6], and a relatively distinctive color pattern. The 46 specimens of *paleatus* examined range from 2.4 to 3.0 in depth. Although *C. raimundi* Stdr. 1907 is said to have a depth contained 3 to 4 times in standard length, its interorbital is 2 in head and the color pattern is quite different, consisting of a definite black band along upper half of dorsal fin and 3 rows of dark spots over the upper two thirds of the body. *Corydoras cochui* further differs from *C. paleatus* in having narrower caudal bands and 4 dark blotches along the midsides instead of the usual 3 of *paleatus*.

"All the fish in the Paramount shipment are said to be of approximately the same size. We do not know whether they represent a small species or whether they will grow larger. The close relationship to *C. paleatus* suggests the latter. It further suggests that *C. cochui* may eventually be found to represent a geographical race (subspecies) of *paleatus*, of which there are evidently several that have not yet properly been distinguished. Unfortunately, available material is insufficient to decide this problem

and the new fish is given species rank for the present."

*Corydoras cochui* is now known to be a pygmy species of *Corydoras* apparently not reaching much over 25 mm. in standard length. It therefore seems to be quite distinct from *paleatus*, a species that is known to reach 70 mm. in standard length (SU 31580). In addition, the pectoral spines of *paleatus* and *cochui* are quite different (fig. 2). The spinules along the posterior edge of *cochui* (fig. 2a) are much larger. A young specimen of *paleatus*, 30 mm. in standard length, had a pectoral spine shape and spinules like those of the adult spine figured (2b). In summary, *Corydoras cochui*, a pygmy species of *Corydoras*, differs most prominently from *C. paleatus* in its smaller adult size, more slender form, different pectoral spinosity and a slightly different color pattern.

The relationships of *Corydoras cochui* to *Corydoras bertonii* Eigenmann, in Eigenmann and Allen (1942), are not too clear. *Corydoras bertonii* was rather inadequately described from a single specimen from Puerto Bertoni, in the Alto Paraná of Paraguay. The headwaters of the Araguaya and Paraná rivers are in the same region and are connected at least during high water. Presumably *cochui* and *bertonii* may meet in this area. The description of the body shape of *bertonii* is much like that of *cochui*; however, the dorsal fin of *bertonii* is stated to reach the adipose fin and its barbels to reach only to below the anterior edge of the eye. In color the two forms may be much alike. *Corydoras bertonii* is stated to have "Sides light, with numerous, irregular, dark, vertical spots; dorsal with two oblique bands; caudal with three cross bands; anal with a vertical band across anterior third; upper surfaces of pectoral and ventral faintly marked." The narrow bands on the caudal of *cochui* seem quite variable and there may be only 3 in some specimens. *Corydoras cochui* does not have numerous, irregular dark vertical spots on its sides, but presumably this difference in coloration could be due to geographical variation. In any case, it appears that *cochui* and *bertonii* may be similar enough to warrant detailed comparison when specimens of *bertonii* become available. The holotype of *bertonii* could not be found in the California Academy of Sciences, the depository for Eigenmann's South American collections handled by Dr. Allen.

COMPARATIVE MATERIAL OF *CORYDORAS PALEATUS*.—In the Stanford Natural History Museum: SU 31579, 13 specimens, Chaco, Argentina; SU 31580, 53, San Pedro, Buenos Aires, Argentina; SU 31581, 16, Corrientes, Argentina; SU 47862, 3, Porto Alegre, Brazil. In California Academy of Sciences: CAS 20659, 5, Cacaquy, Rio Grande do Sul, Brazil; CAS 20660, 9, Rio Grande do Sul, Brazil.

## LITERATURE CITED

EIGENMANN, Carl H., and ALLEN, William Ray
1942 Fishes of Western South America. 494 pp., 48 figs., 22 pls., 1 map. Univ. of Kentucky, Lexington.

JENYNS, Leonard
1842 The Zoology of the voyage of H. M. S. Beagle. Part IV, Fish, xvi+ 172 pp., 29 pls., London.

MYERS, George Sprague, and WEITZMAN, Stanley Howard
1954 Another new *Corydoras* from Brazil. The Aquarium Journal, San Francisco, vol. 25, no. 4, April (publ. March 25, 1954), pp. 93-94, 1 fig.

STEINDACHNER, Franz
1907 Ueber drei neue Characinen und eine neue kleine *Corydoras*-Art aus dem Stromgebiete des Parnahyba und San Francisco. Anz. Akad. Wiss. Wien, vol. 44, pp. 82-85.

# THE SYNONYMY AND DISTRIBUTION OF *LEUROGLOSSUS STILBIUS* GILBERT, A NORTH PACIFIC BATHYPELAGIC FISH

By Daniel M. Cohen

*Leuroglossus stilbius* is a bathypelagic isospondyl fish first described by Gilbert in 1890 (p. 57) from the collections of the "Albatross" in the Gulf of California. Since its discovery, *L. stilbius* has been reported from localities ranging from the Okhotsk and Bering seas to Southeast Alaska and California. Until the present time, however, the original description of the fish has remained the most southerly record for the species.

In 1931, Parr (p. 6) described *Bathylagus longiceps* from specimens collected off Central America. In his description of the species, Parr commented on the great length of the head as compared with any known species of *Bathylagus*. An examination of Parr's material shows that *Bathylagus longiceps* is a synonym of *Leuroglossus stilbius*, a form notable for the length of its head.

Following are comparisons of a series of counts, measurements and proportions between three of Parr's specimens of *Bathylagus longiceps* (two were measured by the present author; data for the third were taken from Parr's description of the holotype) and 16 specimens of *Leuroglossus stilbius* from Monterey Bay, California (*B. longiceps* data are first, followed by the same for *L. stilbius* in parentheses): standard length 32.0-42.0 mm. (33.5-69.5 mm.); (the following are in percents of standard length) head 34.0-37.5 (30.2-33.7); snout 9.1-9.5 (7.7-9.3); eye diameter 9.4-11.4 (7.9-10.8); predorsal 56.8-58.0 (53.5-59.7); preanal 78.7-79.0 (74.1-77.8); depth 16.5-21.0 (15.2-18.7). D. 9-11 (9-12); A. 12 (12-14); P. 8 (8-9); V. 8 (8-9). In every instance but one the characters overlap. Examination of Figure 1 shows that the one exception, relative head length, is dependent upon body length. The most striking similarity between Parr's nominal species and *L. stilbius* is the presence in both of a distinct symphysial point at the end of the projecting lower jaw.

Parr's description of *Bathylagus longiceps*, then, would stand as the southernmost record of *Leuroglossus stilbius* to date. However, while identifying specimens collected by the Department of Tropical Research of the New York Zoological Society, now deposited in the Natural History Museum of Stanford University, I encountered post-larval and juvenile specimens of *Leuroglossus stilbius* from considerably farther south. The collections include specimens ranging from localities inside the Gulf of California to Panama and Colombia. Also, three lots of specimens in very poor condition from Costa Rica, Colombia, and from 70 miles northeast of Tower Island, Galapagos Islands, have been tentatively identified as this species.

Rass (1955, p. 329) divides *Leuroglossus stilbius* into two subspecies. He proposes that the population inhabiting the area comprising the Okhotsk Sea, Bering Sea, Northwestern Pacific Ocean, and perhaps the Gulf of Alaska, be considered a distinct form, which he calls *L. stilbius schmidti*. In the comparisons made by Rass between his new subspecies and the typical form, no overlapping of the characters measured was recorded. The data below, however, show that southern specimens have a wider variation than has previously been recorded.

The proportional differences Rass used to separate the two forms, compared with the same proportions from *L. stilbius* from California, Mexico, and Central America (*L. s. schmidti* first, followed by *L. stilbius* in parentheses) are: body depth as percent of standard length 13.3-16.5 (15.2-

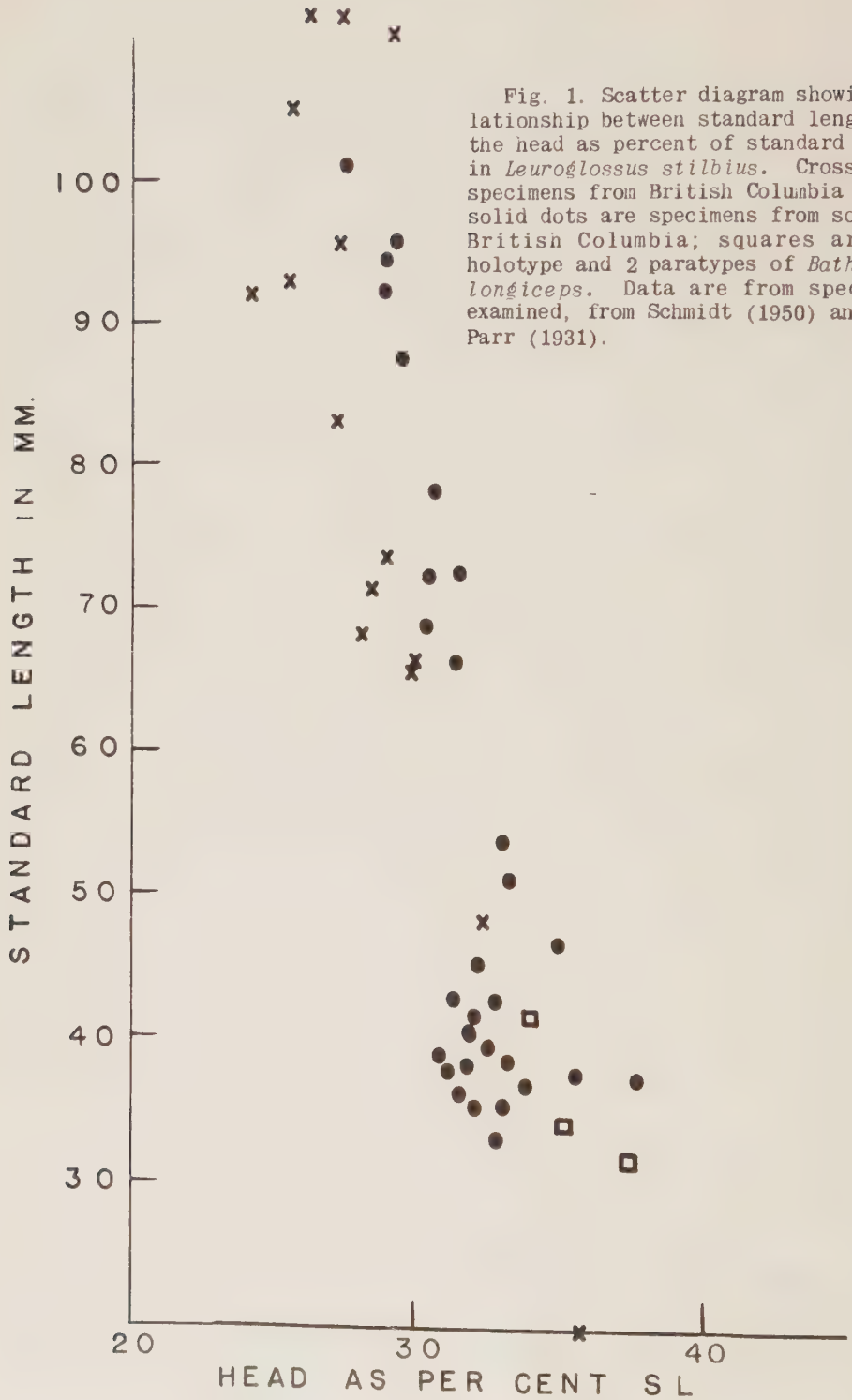


Fig. 1. Scatter diagram showing relationship between standard length and the head as percent of standard length in *Leuroglossus stilbius*. Crosses are specimens from British Columbia north; solid dots are specimens from south of British Columbia; squares are the holotype and 2 paratypes of *Bathylagus longiceps*. Data are from specimens examined, from Schmidt (1950) and from Parr (1931).

20.6); head length 25.4-31.0 (27.9-33.7); snout as percent of head length 28.4-33.8 (24.0-30.4). It is important to remember that different proportions may be obtained from fish of different size. The specimens at hand range from 33.5-101.2 mm. in standard length, while Rass stated that his largest example is 142 mm. long. As Figure 1 indicates, the relative size of the head decreases as the standard length of the fish increases. Rass also stated that the northern form possesses a stronger dentition. This again is a character strongly dependent upon the size of the fish. There seems, then, to be little basis for recognizing a subspecies based on the criteria presented by Rass. Because of the linear distributional pattern of the species, extending as it does from the Okhotsk Sea, across the Aleutian Chain and down the Pacific Coast of America almost to the Equator, it may well be tnat local differentiation has taken place; however, critical examination of far more specimens than are now available should precede any subspecific designations.

The synonymy of *Leuroglossus stilbius* should stand as follows:

*Leuroglossus stilbius* Gilbert, 1890, p. 57 (original description; type localities: "Albatross" Station 2997, 24° 39′ 30″ N., 110° 34′ W., and "Albatross" Sta. 2998, 24° 51′ N., 110° 39′ W.; syntypes in the U.S. Nat. Mus.); 1895, p. 400 and 465 (60° N., 167° 53′ W., and 63° 03′ N., 167° 55′ W.; 31° 04′ N., 135° 37′ W., and 35° 31′ N., 124° 57′ 30″ W.; description).—Jordan and Evermann, 1896, p. 527, fig. 233 (description).—Garman, 1899, p. 403 (listed).—Jordan and Gilbert, 1899, p. 440 (listed).—Gilbert and Burke, 1910, p. 34 (54° 12′ N., 179° 07′ 30″ E.).—Ulrey and Greeley, 1928, p. 4 (listed).—Hubbs, 1928, p. 12 (listed).—Soldatov and Lindberg, 1930, p. 60 (description).—Jordan, Evermann and Clark, 1930, p. 68 (listed).—Schultz and De Lacy, 1935, p. 376 (listed).—Schultz, 1936, p. 142 (key).—Taranetz, 1937, p. 69 (listed).—Chapman, 1943, p. 157 (systematic position).—Matsubara, 1943, p. 72 (comparison with *L. lineatus*).—Schmidt, 1950, p. 50 (Okhotsk Sea off Cape Elizabeth, and at Patience Bay, off west coast of Kamchatka; description).—Alverson, 1951, p. 86 (Luck Point, Clarence Strait, Alaska).—Fitch, 1951, p. 114 (3 miles east of Santa Barbara Island, California; counts).—Tucker, 1951, p. 224 (54° 40′ N., 172° 52′ W., and 55° 12′ N., 172° 38′ W.).—Follett, 1952, p. 408 (37° 05′ 30″ N., 122° 55′ W., and 37° 51′ N., 123° 26′ W.).

*Bathylagus longiceps* Parr, 1931, p. 6, fig. 3 (original description; type locality: 27° 07′ N., 108° 40′ W.; holotype: Bingham Oceanographic Coll. 2711; also from 22° 50′ 20″ N., 109° 48′ 15″ W.).—Fowler, 1944, p. 483 (listed).

*Leuroglossus* sp. Wilimovsky, 1954, p. 281 (listed).

*Leuroglossus stilbius schmidti* Rass, 1955, p. 329, fig. 1 (original description; type locality: 9 stations along entire Kuril-Kamcnatka Trench; types: 16 specimens; whereabouts of types unknown).

Following is a list of specimens examined: *Leuroglossus stilbius*: Stanford University Natural History Museum 48843 (21 specimens) 55° 12′ N., 172° 38′ W.—SU 48844 (1) 54° 40″ N., 172° 52′ W.—SU 5436 (3) 54° 02′ 50″ N., 166° 45′ W.—Univ. of Washington 6333 (4) S.E. Alaska, off Rats Bay in Clarence Strait.—UW 2979 (1) British Columbia, off Five Fingers, Departure Bay, Straits of Georgia (this is a new record for British Columbia).—SU 22996 (2) and 48752 (16) off Pt. Pinos, Monterey Peninsula, California.—SU 5235 (1) 36° 08′ 15″ N., 121° 49′ 40″ W.—Hopkins Marine Sta. Coll. (7) 33° 00′ 25″ N., 118° 33′ 24″ W.—SU 46413 (3) 27° 23′ N., 111° 26′ W.—SU 46415 (5) 26° 48′ 40″ N., 111° 20′ 30″ W.—SU 46418 (7) 7° 24′ N., 78° 35′ W.—SU 46412 (1) 7° 00′ N., 79° 16′ W.—SU 46417 (6) 7° 00′ N.,

30° 40′ W.—SU 46414 (1) 5° 10′ N., 78° 42′ W. The following three lots are tentatively identified as *L. stilbius*:—SU 46420 (2) 9° 12′ N., 85° 05′ W. —SU 46419 (35) 4° 35′ N., 78° 02″ W.—SU 46421 (2) Galapagos Islands, 70 miles N.E. of Tower Island. *Bathylagus longiceps*:—Bingham Oceanogr. Coll. 2712 (5) 22° 50′ 20″ N., 109° 48′ 15″ W.

I would like to thank Drs. Rolf L. Bolin, James E. Morrow, Arthur D. Welander, and Norman J. Wilimovsky for their kindness in making specimens available to me. I am also indebted to Mrs. Lisa Lanz and Dr. Wilimovsky for translations of the Russian literature.

## LITERATURE CITED

ALVERSON, Dayton
1951 New records for marine fishes from southeastern Alaska. Copeia, 1951, no. 1, p. 86.

CHAPMAN, Wilbert McLeod
1943 The osteology and relationships of the bathypelagic fishes of the genus Bathylagus Günther with notes on the systematic position of Leuroglossus stilbius Gilbert and Therobromus callorhinus Lucas. Journ. Washington Acad. Sci., vol. 33, no. 5, pp. 147-160.

FITCH, John
1951 Studies and notes on some California marine fishes. California Fish and Game, vol. 37, no. 2, pp. 111-120.

FOLLETT, W. I.
1952 Annotated list of fishes obtained by the California Academy of Sciences during six cruises of the U.S.S. Mulberry conducted by the United States Navy off Central California in 1949 and 1950. Proc. California Acad. Sci., ser. 4, vol. 27, no. 16, pp. 399-432, pl. 21-26.

FOWLER, Henry Weed
1944 Results of the fifth George Vanderbilt Expedition (1941), (Bahamas, Galapagos Archipelago and Mexican Pacific islands). The fishes. Acad. Nat. Sci. Philadelphia, Monogr. 6, pp. 57-529, 20 pls.

GARMAN, Samuel
1899 Reports on an exploration off the West Coast of Mexico, Central and South America, and off the Galapagos Islands in charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross" during 1891, Lieut. Commander Z. L. Tanner, U.S.N., commanding. 26. The fishes. Mem. Mus. Comp. Zool. Harvard, vol. 24, 431 pp., pls. 1-85 and A-N.

GILBERT, Charles Henry
1890 A preliminary report on the fishes collected by the steamer "Albatross" on the Pacific Coast of North America during the year 1889, with descriptions of twelve new genera and ninety-two new species. Proc. U. S. Nat. Mus., vol. 13, pp. 49-126.
1895 The ichthyological collections of the steamer "Albatross" during the years 1890 and 1891. Report on the fishes collected in Bering Sea and the North Pacific Ocean during the summer of 1890. Commissioner's report, U. S. Comm. Fish and Fisheries, pt. 19, for the year ending June 30, 1893, pp. 393-476, pls. 20-35.

GILBERT, Charles H., and BURKE, Charles
1910 Fishes from Bering Sea and Kamchatka. Bull. Bur. Fisheries, vol. 30, pp. 33-96.

HUBBS, Carl Leavitt
1928 A check-list of the marine fishes of Oregon and Washington. Journ. Pan-Pacific Res. Inst., vol. 3, no. 3, pp. 9-16.

JORDAN, David Starr and EVERMANN, Barton Warren
1896 The fishes of North and Middle America. Bull. U. S. Nat. Mus., no. 47. 4 parts, 1896-1900. pt. 1, lx + 1240 pp.
JORDAN, David Starr, EVERMANN, Barton W. and CLARK, Howard Walton
1930 A check-list of the fishes and fish-like vertebrates of North and Middle America north of the northern boundary of Venezuela and Colombia. Rep. U. S. Comm. Fish. (for 1928), appen. x, 670 pp.
JORDAN, David Starr and GILBERT, Charles
1899 The fishes of the Bering Sea. In: The fur seals and fur-seal islands of the North Pacific Ocean, pt. 3, pp. 433-509, pls. 42-85.
MATSUBARA, Kiyomatsu
1943 Ichthyological annotations from the depth of the sea of Japan. I-VIII, V on a new microstomid fish, Leuroglossus lineatus, with an emendation of the family Microstomidae. Journ. Sigenkagaku Kenkyusyo, vol. 1, pp. 64-70.
PARR, Albert Eide
1931 Deepsea fishes from off the western coast of North and Central America. Bull. Bingham Oceanographic Coll., vol. 2, art. 4, 53 pp.
RASS, T. S.
1955 Glubokovodnye ryby Kurilo-Kamshatskoy vpadiny. Trudy Instituta Okeanologii, tom. 12, pp. 328-339.
SCHMIDT, Peter (=SHMIDT, Petr Yu)
1950 Fishes of the Okhotsk Sea (=Ryby Okhotskogo morya). Trudy, Tikhookeanskogo komiteta 6, Izadatel'stvo Akademii Nauk, SSSR, Moscow & Leningrad, 370 pp., 20 pls.
SCHULTZ, Leonard Peter
1936 Keys to the fishes of Washington, Oregon and closely adjoining regions. Univ. Washington Pub. Biology, vol. 2, no. 4, pp. 103-228.
SCHULTZ, Leonard Peter and DeLACY, Allan C.
1935 Fishes of the American Northwest. A catalogue of the fishes of Washington and Oregon, with distributional records and a bibliography. Pt. 1, Journ. Pan-Pacific Res. Inst., vol. 10, no. 4, pp. 365-380.
SOLDATOV, V. K. and LINDBERG, G. L.
1930 A review of the fishes of the seas of the Far East. Bull. Pacific Scientific Fish. Inst., vol. 5, 576 pp., 14 pls.
TARANETZ, Anatoly Yakovlevich
1937 Handbook for identification of fishes of Soviet Far East and adjacent waters. Bull. Pacific Scientific Inst. of Fish. and Oceanography, vol. 11, 200 pp., plus map.
TUCKER, Gordon
1951 Relations of fishes and other organisms to the scattering of underwater sound. Journ. Mar. Res., pp. 215-238.
ULREY, Albert B. and GREELEY, Paul O.
1928 A list of the marine fishes (Teleostei) of Southern California with their distribution. Bull. South. California Acad. Sci., vol. 28, no. 1, 53 pp.
WILIMOVSKY, Norman Joseph
1954 List of the fishes of Alaska. Stanford Ichth. Bull., vol. 4, pp. 279-294, map.

---

A NEW NAME, *LUMPENUS SAGITTA*, TO REPLACE *LUMPENUS GRACILIS* (AYRES), FOR A NORTHERN BLENNIOID FISH (FAMILY STICHAEIDAE).—While preparing a review of the genera of boreal blennioid fishes, many of which are often referred to as "eel-blennies", it became apparent that the name of the Pacific

snakeblenny, *Lumpenus anguillaris* (Pallas), is a homonym, as Pallas' description of *Blennius anguillaris* ([1814],[1] Zoogr. Rosso-Asiat., tom. 3, p. 176) is antedated in this genus by *Blennius anguillaris* Peck (1804, Mem. Amer. Acad. Sci., vol. 2, p. 46) = *Macrozoarces americanus* (Bloch and Schneider). *Lumpenus gracilis* (Ayres, 1855, Proc. Calif. Acad. Nat. Sci., vol. 1, p. 26), which is apparently a synonym of *Lumpenus anguillaris* (Pallas), is employed by most ichthyologists as the next, and only, available name for Pallas' fish. Unfortunately, Ayres' name (originally as *Leptogunnellus gracilis*) becomes a secondary homonym, as both his species and *Blennius gracilis* Stuwitz (1838, Nyt Mag. Natur., bd. 1, p. 406 = *Lumpenus lampretaeformis* (Walbaum) [emended to *L. lampetraeformis* by many authors] are referable to the same genus. Stuwitz' specific name was first employed in *Lumpenus* by Reinhardt (1838, Dansk. Vid. Selsk. Nat., del. 7, p. 194) as *Lumpenus (Clinus) gracilis*. Although a synonym of another species of *Lumpenus*, I regard *Lumpenus gracilis* (Stuwitz) as a senior secondary homonym; Ayres' specific name is to be rejected as a junior secondary homonym. Consequently, under the provisions of the International Rules of Zoological Nomenclature, it becomes necessary to substitute a new name for the species associated by most authors with the unavailable names of Pallas and Ayres.

The situation is somewhat complicated by the fact that in a rather rare paper (to western investigators), published in the Far Eastern Branch of the Soviet Academy of Sciences, Taranets (1935, Vestnik dv filiala Akad. Nauk SSSR, no. 13, p. 97) identifies *Lumpenus anguillaris* of Pallas with *L. mackayi* Gilbert, assigning both to the genus *Lumpenella* Hubbs. Further, Taranets recognises *L. gracilis* (Ayres) as distinct. His conclusions, to my knowledge, have been accepted by only a single investigator, and in but one paper (Andriyashev, 1939, Ocherk zoogeografii i proiskhozhdeniya fauny ryb beringova morya i sopredel'nykh vod. Izdanie Leningradskogo gosudarstvennogo universiteta, p. 51, footnote, and p. 74). It may be noted that other recent Russian writers do not follow Taranets' view, nor do my findings confirm it. Shmidt (1950, Trudy tikhookeanskogo komiteta, tom. 6, p. 22), who had access to Pallas' unpublished plates,[2] regards *Lumpenus anguillaris* (Pallas) and *L. gracilis* (Ayres) as conspecific. However, until such time as the century-old drawing can be made available for study and confirmation, the specific identity of Pallas' fish remains a problem of systematic zoology rather than one of nomenclature.

As a consequence, I propose *Lumpenus sagitta* as a new name for *Lumpenus gracilis* (Ayres). By this action, the name of the Pacific snakeblenny will be stabilized—regardless of the future identification of *Lumpenus anguillaris* (Pallas) as a synonym of *L. gracilis* (Ayres) or as some other species within the genus. I wish to acknowledge the aid of Drs. R. L. Bolin of Stanford University and F. C. Sawyer, zoological librarian of the British Museum.—Norman J. Wilimovsky.

[1] As Sherborn (Ibis, 1934, pp. 164-167) has shown by indirect evidence, and as accepted by the International Commission on Zoological Nomenclature (1950, Bull. Zool. Nomen., vol. 4, p. 403), the publication date of Pallas' third volume is established as 1814, and not 1831 or 1811, as cited by some authors.

[2] Because of delays resulting from Pallas' insistence that his plates be engraved by Baer of Leipzig, the majority of the plates referred to in the third volume of the Zoographia Rosso-Asiatica were never published. According to Shmidt (l.c., supra, p. 20), a complete set of plates exists in the Archives of the Soviet Academy of Sciences.